

Учреждение образования  
«Белорусский государственный медицинский университет»  
Задание для итоговой аттестации по предмету «Химия»



УТВЕРЖДАЮ  
Декан факультета профорientации  
и довузовской подготовки  
Н.К.АЛЬХОВИК

Variant 1

Part A

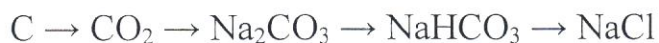
- How many atoms are there in the molecule of oxygen (O<sub>2</sub>)?  
a. 2                      b. 3                      c. 4                      d. 5
- How many electrons are there on the outer layer of sulfur atom?  
a. 4                      b. 5                      c. 6                      d. 7
- Oxidation state of iron in iron (II) oxide (FeO) is equal to:  
a. +2                      b. +3                      c. +4                      d. +5
- Choose formulas of oxides:  
a. ZnO                      b. Li                      c. CaO                      d. CH<sub>4</sub>
- The product of the reaction between butene and hydrogen is:  
a. propane                      b. butane                      c. pentane                      d. hexane
- Choose the names of amino acids:  
a. methane                      b. ethanol                      c. glycine                      d. alanine
- Write kinetic equation for the forward reaction according to the original law of mass action.  
$$\text{SO}_2(g) + 2\text{H}_2\text{S}(g) \rightarrow 3\text{S}(s) + 2\text{H}_2\text{O}(g)$$
- Write the equation of electrolytic dissociation for lithium chloride (LiCl).
- Write the formula of water.
- Write the products of zinc nitrate (Zn(NO<sub>3</sub>)<sub>2</sub>) thermal decomposition.
- Write the products of aluminum reaction with the excess of sodium hydroxide (NaOH).
- What is the name of the organic product of the reaction between acetaldehyde and copper (II) oxide?

Part B

13. What is the mass percentage (%) of sodium fluoride (NaF) in a solution made by the way of the dissolving of 8 g of sodium fluoride (NaF) in 50 g of water?

14. Draw the structural formula of acetic acid.

15. Write four chemical equations according to the chain of chemical reactions and balance them.



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17. Find the volume (in normal conditions) of carbon dioxide (L) formed in the reaction between 43 g of potassium carbonate ( $K_2CO_3$ ) and the excess of hydrochloric acid (HCl).

18. Calculate the mass of acetic acid (g) formed in the reaction between 10 g of acetaldehyde and Tollen's reactant ( $Ag_2O$ ).

19. Write the reaction in complete and short ionic forms.



20. Balance redox reaction using the electron-atomic method.



Заведующий кафедрой общей химии



В.В. Хрусталёв